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| 10/685,516 | 10/16/2003 | Masanori Matsumoto | 244121US2S | 5064 |

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| EXAMINER |
|---|
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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| | Application No. | Applicant(s) |
|---|---|---|
| | 10/685,516 | MATSUMOTO ET AL. |
| ***Office Action Summary*** | Examiner | Art Unit | |
| | JOSEPH BURGESS | 4114 | |

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS,
WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *16 October 2003*.

2a)☐ This action is **FINAL**.    2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-37* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-37* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *16 October 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All  b)☐ Some *  c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date *See Continuation Sheet*.

4)☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :10/16/2003, 03/24/2004, 03/20/2007.

## DETAILED ACTION

### *Status of Claims*

1.      This action is in reply to application 10/685516 filed on 10/16/2003.

2.      Claims 1-37 are currently pending and have been examined.

### *Claim Rejections - 35 USC § 101*

3.      35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or
composition of matter, or any new and useful improvement thereof, may obtain a patent therefor,
subject to the conditions and requirements of this title.

4.      Claim 29 is directed to a method. However, the recited steps of the method are held to be non-
statutory subject matter because the recited steps of the method are (1) not tied to another
statutory class (such as a particular apparatus) or (2) not transforming the underlying subject
matter (such as an article or materials) to a different state or thing.

### *Claim Rejections - 35 USC § 103*

5.      The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness
rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as
set forth in section 102 of this title, if the differences between the subject matter sought to be
patented and the prior art are such that the subject matter as a whole would have been obvious
at the time the invention was made to a person having ordinary skill in the art to which said
subject matter pertains. Patentability shall not be negatived by the manner in which the invention
was made.

6.  The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

    1.  Determining the scope and contents of the prior art.
    2.  Ascertaining the differences between the prior art and the claims at issue.
    3.  Resolving the level of ordinary skill in the pertinent art.
    4.  Considering objective evidence present in the application indicating obviousness or nonobviousness.

    **Examiner's Note**: The Examiner has pointed out particular references contained in the prior art of record within the body of this action for the convenience of the Applicant. Although the specified citations are representative of the teachings in the art and are applied to the specific limitations within the individual claim, other passages and figures may apply. Applicant, in preparing the response, should consider fully the entire reference as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

7.  Claims 1-7, 9-27, and 30-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Banks, et al. (US 6,674,449 B1) in view of Tsunoda (US 7,315,755 B2) and in further view of Babula, et al. (US 6,353,445 B1) and still in further view of Matsumoto, et al. (JP 2001-149354 A).

8.  **Claim 1:**

    Banks, as shown, discloses the following limitations:

    *   *a server linked to said network* (see figure 1)*, and configured to register an examination protocol for an examination to be performed by said medical image diagnostic apparatus in connection with examination information indicating a content of the examination* (see at least column 9, lines 1-67, column 10, lines 1-18, and figure 2, i.e. imaging protocols are stored in memory according to radiologist, exam type, required images for protocol, etc.)*, and distribute the searched examination protocol to said medical image diagnostic apparatus that*

*has sent the request* (see at least column 9, lines 1-14, i.e. protocols are provided to apparatus through icons shown on a universal interface),

Banks does not disclose the following limitations, but Tsunoda, as shown, does:

- *search for an examination protocol that matches with a request condition in response to a request to provide an examination protocol, sent from said medical image diagnostic apparatus* (see at least column 14, lines 5-62, i.e. medical image/protocol combinations relevant to request from user terminal are searched in medical image/protocol database),

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the multiple modality interface of Banks with the protocol communication techniques of Tsunoda because they permit "…management…of a protocol…on a centralized basis" (Tsunoda, column 1, lines 66-67).

The combination of Banks/Tsunoda does not disclose the following limitations, but Babula, as shown does:

- *wherein said medical image diagnostic apparatus sends the request to provide an examination protocol to said server and receives the examination protocol distributed from said server via said network* (see at least column 23, lines 62-67 and column 24, lines 1-50, i.e. "pull" method is used by diagnostic system to retrieve exam protocols from service facility processing system).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the multiple modality interface of Banks/Tsunoda with the medical imaging system service interface of Babula because it facilitates "…the exchange of service data despite differences in the modality system configurations" (Babula, abstract).

The combination of Banks/Tsunoda/Babula does not disclose the following limitations, but Matsumoto, as shown does:

- *a network to which a medical image diagnostic apparatus is linked* (see at least figures 1 and 2);

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the multiple modality interface of Banks/Tsunoda/Babula with the x-ray diagnostic system of Matsumoto because "…the burden of various setup is eased remarkably in x-ray image diagnostic equipment" (Matsumoto, machine translation from www.jpo.go.jp, paragraph 007).

9.      **Claim 2:**

The combination of Banks/Tsunoda/Babula/Matsumoto discloses the limitations as shown in the rejections above. Furthermore, Babula discloses the following limitations:

- *said network includes an external network and an internal network of a medical institution* (see at least column 5, lines 64-67 and column 6, lines 1-40, i.e. more than one medical diagnostic system is linked to a management system in a radiology department in a hospital and that can be linked to an external service facility);

- *said medical image diagnostic apparatus is linked to said internal network* (see at least column 5, lines 64-67, i.e. medical diagnostic device is linked to management system);

- *said server is linked to said external network* (see at least column 6, lines 41-67).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the multiple modality interface of Banks/Tsunoda/Babula/Matsumoto with the medical imaging system service interface of Babula because it facilitates "…the exchange of service data despite differences in the modality system configurations" (Babula, abstract).

10.     **Claim 3:**

The combination of Banks/Tsunoda/Babula/Matsumoto discloses the limitations as shown in the rejections above. Furthermore, Tsunoda discloses the following limitations:

- *said medical institution includes a plurality of hospitals* (see at least column 10, lines 32-47 and figure 1);

- *said internal network inter-links said plurality of hospitals* (see at least column 10, lines 32-47 and figure 1);

- *said plurality of hospitals share the examination protocol* (see at least column 10, lines 32-47 and figure 1).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the multiple modality interface of Banks/Tsunoda/Babula/Matsumoto with the protocol communication techniques of Tsunoda because they permit "...management...of a protocol...on a centralized basis" (Tsunoda, column 1, lines 66-67).


11.    **Claim 4:**

The combination of Banks/Tsunoda/Babula/Matsumoto discloses the limitations as shown in the rejections above.  Furthermore, Babula discloses the limitation of *a local server linked to said internal network and said external network* (see at least column 5, lines 64-67 and column 6, lines 1-24, i.e. management system linked to multiple imaging equipment inside a medical facility able to exchange data between the medical facility and service facility)*, and configured to send, from said medical image diagnostic apparatus to said server, the request to provide an examination protocol, and send the examination protocol distributed from said examination protocol providing server to said medical image diagnostic apparatus that has sent the request* (see at least column 7, lines 53-67 and column 8, lines 1-3, i.e. uniform service platform includes connectivity to the web pages that facilitate the exchange of protocols).  It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the multiple modality interface of Banks/Tsunoda/Babula/Matsumoto with the medical imaging system service interface of Babula because it facilitates "...the exchange of service data despite differences in the modality system configurations" (Babula, abstract).

12.    **Claim 5:**

The combination of Banks/Tsunoda/Babula/Matsumoto discloses the limitations as shown in the rejections above.  Furthermore, Banks discloses the limitation of *said local server registers examination protocols used in a plurality of medical image diagnostic apparatuses within said medical institution* (see at least column 9, lines 1-44, i.e. protocols or exam types are stored in memory), *distributes a corresponding examination protocol in response to a request to a medical image diagnostic apparatus that has sent the request* (see at least column 9, lines 1-14, i.e. protocols are provided to apparatus through icons shown on a universal interface).

Additionally, Babula discloses the limitation of *on behalf of said plurality of medical image diagnostic apparatuses, sends a request to provide an examination protocol to said examination protocol providing server and receives the examination protocol* (see at least column 23, lines 62-67 and column 24, lines 1-50, i.e. "pull" method is used by diagnostic system to retrieve exam protocols from service facility processing system).  It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the multiple modality interface of Banks/Tsunoda/Babula/Matsumoto with the medical imaging system service interface of Babula because it facilitates "...the exchange of service data despite differences in the modality system configurations" (Babula, abstract).

13.    **Claim 6:**

The combination of Banks/Tsunoda/Babula/Matsumoto discloses the limitations as shown in the rejections above.  Furthermore, Banks, as shown, discloses the following limitations:

- *said server registers an examination protocol uploaded from said medical image diagnostic apparatus in response to a request to register an examination protocol, sent from said medical image diagnostic apparatus* (see at least column 17, lines 30-48, i.e. exam protocols can be modified at imaging machine and processor can store for future processing);

- *said medical image diagnostic apparatus, via said network, sends the request to register an examination protocol to said server, and upon receipt of a response from said server, uploads an examination protocol set when an examination was performed on the subject to said server, together with examination information indicating a content of the examination* (see at least column 13, lines 1-8, i.e. required protocol is recognized and image parameters are accessed from memory, e.g. Dr. Welby's C-spine protocol includes four required images including a "localizer", etc).

14.   **Claim 7:**

The combination of Banks/Tsunoda/Babula/Matsumoto discloses the limitations as shown in the rejections above.  Furthermore, Banks discloses the limitation *of said server requests examination information related to an examination protocol to be uploaded, from said medical image diagnostic apparatus that has sent the request to register an examination protocol* (see at least column 14, lines 15-33, i.e. images generated from specific protocols, e.g. Sag T2 FSE, are sent to memory).

15.   **Claim 9:**

The combination of Banks/Tsunoda/Babula/Matsumoto discloses the limitations as shown in the rejections above.  Furthermore, Banks discloses the limitation *of said server registers a keyword indicating a characteristic of the examination protocol from the examination information, and searches for a corresponding examination protocol based on the key word when the keyword is specified as the request condition* (see at least column 9, lines 15-28 and figure 2, i.e. protocols are stored in memory and can be pulled up according to radiologist indicators).

16.   **Claim 10:**

The combination of Banks/Tsunoda/Babula/Matsumoto discloses the limitations as shown in the rejections above.  Furthermore, Banks discloses the limitation of *said server registers an*

*examination purpose for which the examination protocol is recommended as being optimal in connection with the examination protocol, and searches for an examination protocol recommended by the examination purpose when the examination purpose is specified as the request condition* (see at least column 9, lines 29-44, i.e. protocols or exam types are registered in tables in memory to be recalled).


17.     **Claim 11:**

The combination of Banks/Tsunoda/Babula/Matsumoto discloses the limitations as shown in the rejections above.  Furthermore, Banks discloses the limitation of *said server authenticates an access right when an access is made to said server* (see at least column 17, lines 1-14, i.e. password security feature is used to have access to modify protocols).


18.     **Claim 12:**

The combination of Banks/Tsunoda/Babula/Matsumoto discloses the limitations as shown in the rejections above.    Furthermore, Babula discloses the limitation of *said server makes authentication based on identification information pre-assigned to said medical image diagnostic apparatus* (see at least column 23, lines 35-67 and column 24, lines 1-50, i.e. service facility processing system identifies diagnostic systems which need exam protocols).  It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the multiple modality interface of Banks/Tsunoda/Babula/Matsumoto with the medical imaging system service interface of Babula because it facilitates "…the exchange of service data despite differences in the modality system configurations" (Babula, abstract).


19.     **Claim 13:**

The combination of Banks/Tsunoda/Babula/Matsumoto discloses the limitations as shown in the rejections above.  Furthermore, Babula discloses the limitation of *said server automatically distributes an updated examination protocol to a particular medical image diagnostic apparatus*

*when a registered examination protocol is updated* (see at least column 23, lines 35-67 and column 24, lines 1-50, i.e. service facility processing system pushes exam protocols to diagnostic systems). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the multiple modality interface of Banks/Tsunoda/Babula/Matsumoto with the medical imaging system service interface of Babula because it facilitates "…the exchange of service data despite differences in the modality system configurations" (Babula, abstract).

20.     **Claim 14:**

The combination of Banks/Tsunoda/Babula/Matsumoto discloses the limitations as shown in the rejections above. Furthermore, Banks discloses the limitation of *said server automatically maintains an examination protocol in a registered medical image diagnostic apparatus in the same state as a state of an examination protocol recorded in a particular medical image diagnostic apparatus* (see at least column 9, lines 1-28, i.e. protocols are maintained on tables in memory and are used to form the needed protocols on a particular apparatus thru the universal interface).

21.     **Claim 15:**

The combination of Banks/Tsunoda/Babula/Matsumoto discloses the limitations as shown in the rejections above. Furthermore, Tsunoda, as shown, discloses the following limitations:

- *the examination information includes a medical image acquired when an examination was performed according to the examination protocol* (see at least column 1, lines 64-67 and column 2, lines 1-44);

- *said server distributes the medical image included in the examination information when providing the examination protocol* (see at least column 1, lines 64-67 and column 2, lines 1-44).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the multiple modality interface of Banks/Tsunoda/Babula/Matsumoto with the protocol

communication techniques of Tsunoda because they permit "…management…of a protocol…on a centralized basis" (Tsunoda, column 1, lines 66-67).

22.     **Claim 16:**

The combination of Banks/Tsunoda/Babula/Matsumoto discloses the limitations as shown in the rejections above.  Furthermore, Banks discloses the limitation of *said server registers a customized result of the examination protocol* (see at least column 16, lines 29-48, i.e. after completing an imaging session, images are logged into memory according to date, patient name, etc).

23.     **Claim 17:**

The combination of Banks/Tsunoda/Babula/Matsumoto discloses the limitations as shown in the rejections above.  Furthermore, Banks, as shown, discloses the following limitations:

- *the examination information includes an examination history of the subject* (see at least column 16, lines 49-67, i.e. technologist can retrieve archived images from memory);
- *said server searches for a corresponding examination protocol based on the examination history when the examination history is specified as the request condition* (see at least column 16, lines 49-67, i.e. images are retrieved which correspond to previously performed imaging sessions).

24.     **Claim 18:**

The combination of Banks/Tsunoda/Babula/Matsumoto discloses the limitations as shown in the rejections above.  Furthermore, Tsunoda discloses the limitation of *said server is linked to a vender terminal of said medical image diagnostic apparatus via said network, and thereby allows a vender of said medical image diagnostic apparatus also to share a registered examination protocol* (see at least column 12, lines 33-40).  It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the multiple modality interface of

Banks/Tsunoda/Babula/Matsumoto with the protocol communication techniques of Tsunoda because they permit "…management…of a protocol…on a centralized basis" (Tsunoda, column 1, lines 66-67).

25.     **Claim 19:**

The combination of Banks/Tsunoda/Babula/Matsumoto discloses the limitations as shown in the rejections above.  Furthermore, Tsunoda discloses the limitation of *said server registers an examination protocol provided from said vender terminal, and sends an examination protocol uploaded from said medical image diagnostic apparatus to said vender terminal.*  It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the multiple modality interface of Banks/Tsunoda/Babula/Matsumoto with the protocol communication techniques of Tsunoda because they permit "…management…of a protocol…on a centralized basis" (Tsunoda, column 1, lines 66-67).

26.     **Claim 20:**

The combination of Banks/Tsunoda/Babula/Matsumoto discloses the limitations as shown in the rejections above.  Furthermore, Tsunoda discloses the limitation of *said medical image diagnostic apparatus is an X-ray photographing apparatus* (see at least column 7, lines 35-42).  It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the multiple modality interface of Banks/Tsunoda/Babula/Matsumoto with the protocol communication techniques of Tsunoda because they permit "…management…of a protocol…on a centralized basis" (Tsunoda, column 1, lines 66-67).

27.     **Claim 21:**

The combination of Banks/Tsunoda/Babula/Matsumoto discloses the limitations as shown in the rejections above.  Furthermore, Tsunoda discloses the limitation of *said server prepares a group of examination protocols including recommended parameter and photographing direction for each*

*region to be examined* (see at least column 12, lines 5-22 and figure 2). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the multiple modality interface of Banks/Tsunoda/Babula/Matsumoto with the protocol communication techniques of Tsunoda because they permit "...management...of a protocol...on a centralized basis" (Tsunoda, column 1, lines 66-67).

Additionally, Babula discloses the limitation of *distributes the group of examination protocols when a region to be diagnosed is specified as the request condition* (see at least column 15, lines 27-52, i.e. protocols can be sorted by anatomy). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the multiple modality interface of Banks/Tsunoda/Babula/Matsumoto with the medical imaging system service interface of Babula because it facilitates "...the exchange of service data despite differences in the modality system configurations" (Babula, abstract).

28.    **Claim 22:**

The combination of Banks/Tsunoda/Babula/Matsumoto discloses the limitations as shown in the rejections above. Furthermore, Tsunoda discloses the limitation of *said server sets one of a trial period and the number of trials in an examination protocol to be distributed* (see at least column 15, lines 33-37, i.e. trial and evaluation of a protocol are allowed and number of times of use is limited). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the multiple modality interface of Banks/Tsunoda/Babula/Matsumoto with the protocol communication techniques of Tsunoda because they permit "...management...of a protocol...on a centralized basis" (Tsunoda, column 1, lines 66-67).

29.    **Claim 23:**

The combination of Banks/Tsunoda/Babula/Matsumoto discloses the limitations as shown in the rejections above. Furthermore, Babula discloses the limitation of *upon receipt of the request to*

*provide an examination protocol, said server judges a type of said medical image diagnostic apparatus that has sent the request, and presents examination protocols usable and examination protocols unusable in said medical image diagnostic apparatus* (see at least column 4, lines 37-63, i.e. service facility processing system provides protocols to multiple medical diagnostic system modalities including protocols that are specifically adapted to system modality and model). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the multiple modality interface of Banks/Tsunoda/Babula/Matsumoto with the medical imaging system service interface of Babula because it facilitates "...the exchange of service data despite differences in the modality system configurations" (Babula, abstract).

30.     **Claim 24:**

The combination of Banks/Tsunoda/Babula/Matsumoto discloses the limitations as shown in the rejections above. Furthermore, Banks, as shown, discloses the following limitations:

- *the examination information includes a name of a setter of the examination protocol* (see at least column 17, lines 1-29, i.e. radiologist can modify protocols and protocols are listed by their corresponding radiologist);

- *said server searches for a corresponding examination protocol based on the name of the setter when the name of the setter is specified as the request condition* (see at least column 17, lines 1-29, i.e. protocol can be selected based on radiologist's name).

31.     **Claim 25:**

The combination of Banks/Tsunoda/Babula/Matsumoto discloses the limitations as shown in the rejections above. Furthermore, Tsunoda discloses the limitation of *said server introduces a recommended examination protocol from a state of use of a user* (see at least column 15, lines 22-32, i.e. server keeps track of protocol use history). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the multiple modality interface of Banks/Tsunoda/Babula/Matsumoto with the protocol communication techniques of Tsunoda

because they permit "…management…of a protocol…on a centralized basis" (Tsunoda, column 1, lines 66-67).

32.     **Claim 26:**

The combination of Banks/Tsunoda/Babula/Matsumoto discloses the limitations as shown in the rejections above. Furthermore, Tsunoda discloses the limitation of *a service provider managing said server charges a medical institution having concluded a service contract one of fixed fees in a period unit* (see at least column 11, lines 66-67 and column 12, lines 1-4, i.e. manager may charge fee at regular intervals of a certain period) *and fees for a quantity of downloaded data* (see at least column 4, lines 1-4, i.e. user charged a fee dependent on number of times protocol is downloaded). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the multiple modality interface of Banks/Tsunoda/Babula/Matsumoto with the protocol communication techniques of Tsunoda because they permit "…management…of a protocol…on a centralized basis" (Tsunoda, column 1, lines 66-67).

33.     **Claim 27:**

The combination of Banks/Tsunoda/Babula/Matsumoto discloses the limitations as shown in the rejections above. Furthermore, Tsunoda discloses the limitation of *when an examination protocol to be provided is set with one of a trial period and the number of trials, said service provider does not charge for the period nor up to the number of trails* (see at least column 15, lines 33-37). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the multiple modality interface of Banks/Tsunoda/Babula/Matsumoto with the protocol communication techniques of Tsunoda because they permit "…management…of a protocol…on a centralized basis" (Tsunoda, column 1, lines 66-67).

34.     **Claim 30:**

Banks, as shown, discloses the following limitations:

- *a server linked to said network* (see figure 1)*, and configured to register a photographing protocol, which is a data set of photographing program in an examination protocol for an examination to be performed by said medical image diagnostic apparatus* (see at least column 9, lines 1-67, column 10, lines 1-18, and figure 2, i.e. imaging protocols are stored in memory according to radiologist, exam type, required images for protocol, etc.), *and distribute a searched photographing protocol to said medical image diagnostic apparatus that has sent the request* (see at least column 9, lines 1-14, i.e. protocols are provided to apparatus through icons shown on a universal interface),

Banks does not disclose the following limitations, but Tsunoda, as shown, does:

- *search for a photographing protocol that matches with a request condition in response to a request sent from said medical image diagnostic apparatus* (see at least column 14, lines 5-62, i.e. medical image/protocol combinations relevant to request from user terminal are searched in medical image/protocol database),

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the multiple modality interface of Banks with the protocol communication techniques of Tsunoda because they permit "...management...of a protocol...on a centralized basis" (Tsunoda, column 1, lines 66-67).

The combination of Banks/Tsunoda does not disclose the following limitations, but Babula, as shown does:

- *wherein said medical image diagnostic apparatus sends the request to said server and receives a photographing protocol distributed from said server via said network* (see at least column 23, lines 62-67 and column 24, lines 1-50, i.e. "pull" method is used by diagnostic system to retrieve exam protocols from service facility processing system).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the multiple modality interface of Banks/Tsunoda with the medical imaging system

service interface of Babula because it facilitates "…the exchange of service data despite differences in the modality system configurations" (Babula, abstract).

The combination of Banks/Tsunoda/Babula does not disclose the following limitations, but Matsumoto, as shown does:

- *a network to which a medical image diagnostic apparatus is linked* (see at least figures 1 and 2);

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the multiple modality interface of Banks/Tsunoda/Babula with the x-ray diagnostic system of Matsumoto because "…the burden of various setup is eased remarkably in x line drawing image diagnostic equipment" (Matsumoto, machine translation from www.jpo.go.jp, paragraph 007).

35.   **Claim 31:**

The combination of Banks/Tsunoda/Babula/Matsumoto discloses the limitations as shown in the rejections above.  Furthermore, Banks, as shown, discloses the following limitations:

- *when an examination protocol for the target region examined is chosen in said medical image diagnostic apparatus, a photographing protocol correlated with the examination protocol is displayed on a monitor based on the registered information* (see at least column 9, lines 45-67 and figure 2).

Banks does not disclose the following limitations, but Tsunoda, as shown, does:

- *said server registers the examination protocol in connection with a target region examined* (see at least column 12, lines 5-22);

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the multiple modality interface of Banks/Tsunoda/Babula/Matsumoto with the protocol communication techniques of Tsunoda because they permit "…management…of a protocol…on a centralized basis" (Tsunoda, column 1, lines 66-67).

36.    **Claim 32:**

The combination of Banks/Tsunoda/Babula/Matsumoto discloses the limitations as shown in the rejections above.  Furthermore, Banks, as shown, discloses the following limitations:

- *said server registers information related to an operator in connection with the examination protocol* (see at least column 9, lines 1-33 and figure 2);

- *when the operator of said medical image diagnostic apparatus is chosen, an examination protocol correlated with the operator is displayed on a monitor based on the registered information* (see at least column 9, lines 1-33 and figure 2).

37.    **Claim 33:**

The combination of Banks/Tsunoda/Babula/Matsumoto discloses the limitations as shown in the rejections above.  Furthermore, Banks, as shown, discloses the following limitations:

- *said server registers information related to the subject in connection with the examination protocol* (see at least column 12, lines 25-49, i.e. electronic radiology request form is accessed from memory which includes patient information and required protocols for examination);

- *when the subject who will take an examination by said medical image diagnostic apparatus is chosen, an examination protocol correlated with the subject is displayed on a monitor based on the registered information* (see at least column 12, lines 25-49, i.e. electronic radiology request form is accessed from memory which includes patient information and required protocols for examination).

38.    **Claim 34:**

The combination of Banks/Tsunoda/Babula/Matsumoto discloses the limitations as shown in the rejections above.  Furthermore, Banks discloses the limitation of *a controller configured to customize a photographing protocol based on information appended to image data acquired*

*during an examination performed by said medical image diagnostic apparatus* (see at least column 13, lines 26-44, i.e. parameter values for a protocol that correspond to a localizer image for a certain radiologist exam type can be changed).

39.    **Claim 35:**

The combination of Banks/Tsunoda/Babula/Matsumoto discloses the limitations as shown in the rejections above.  Furthermore, Banks discloses the limitation of *said server distributes an examination protocol based on information related to a clinical path inputted from said medical image diagnostic apparatus* (see at least column 12, lines 25-49, i.e. radiology request form is retrieved from memory and includes patient history as well as the required protocol).

40.    **Claim 36:**

The combination of Banks/Tsunoda/Babula/Matsumoto discloses the limitations as shown in the rejections above.  Furthermore, Tsunoda discloses the limitation of *said server registers information from a medical institution, related to a time needed for one patient to perform an examination according to an examination protocol, and, when distributing the examination protocol, appends thereto the information related to the time needed to perform an examination according to the examination protocol* (see at least figure 2 and column 13, lines 15-22, protocols are graded based on scan time and the grade is listed database for protocols which is used to download protocol to apparatus).

41.    Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Banks, et al. (US 6,674,449 B1) in view of Tsunoda (US 7,315,755 B2) and in further view of Babula, et al. (US 6,353,445 B1).

42.    **Claim 28:**

Banks, as shown, discloses the following limitations:

- *a registration portion configured to register an examination protocol used in said medical image diagnostic apparatus in connection with examination information indicating a content of an examination* (see at least column 9, lines 1-67, column 10, lines 1-18, and figure 2, i.e. imaging protocols are stored in memory according to radiologist, exam type, required images for protocol, etc);

- *a distribution portion configured to distribute the searched examination protocol to said medical image diagnostic apparatus that has sent the request* (see at least column 9, lines 1-14, i.e. protocols are provided to apparatus through icons shown on a universal interface).

Banks does not disclose the following limitations, but Tsunoda, as shown, does:

- *a search portion configured to search for an examination protocol that matches with a request condition in response to a request to provide an examination protocol, sent from said medical image diagnostic apparatus* (see at least column 14, lines 5-62, i.e. medical image/protocol combinations relevant to request from user terminal are searched in medical image/protocol database);

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the multiple modality interface of Banks with the protocol communication techniques of Tsunoda because they permit "...management...of a protocol...on a centralized basis" (Tsunoda, column 1, lines 66-67).

The combination of Banks/Tsunoda does not disclose the following limitations, but Babula, as shown does:

- *a communication portion configured to communicate with a medical image diagnostic apparatus via a network* (see at least column 23, lines 62-67 and column 24, lines 1-50, i.e. "pull" method is used by diagnostic system to retrieve exam protocols from service facility processing system);

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the multiple modality interface of Banks/Tsunoda with the medical imaging system

service interface of Babula because it facilitates "...the exchange of service data despite differences in the modality system configurations" (Babula, abstract).

43.　　Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Banks, et al. (US 6,674,449 B1) in view of Tsunoda (US 7,315,755 B2).

44.　　**Claim 29:**

Banks, as shown, discloses the following limitations:

- *registering an examination protocol used in a medical image diagnostic apparatus in connection with examination information indicating a content of an examination* (see at least column 9, lines 1-67, column 10, lines 1-18, and figure 2, i.e. imaging protocols are stored in memory according to radiologist, exam type, required images for protocol, etc)*;*
- *distributing the searched examination protocol to said medical image diagnostic apparatus that has sent the request* (see at least column 9, lines 1-14, i.e. protocols are provided to apparatus through icons shown on a universal interface).

Banks does not disclose the following limitations, but Tsunoda, as shown, does:

- *searching for an examination protocol that matches with a request condition in response to a request to provide an examination protocol, sent from a medical image diagnostic apparatus linked via a network* (see at least column 14, lines 5-62, i.e. medical image/protocol combinations relevant to request from user terminal are searched in medical image/protocol database)*;*

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the multiple modality interface of Banks with the protocol communication techniques of Tsunoda because they permit "...management...of a protocol...on a centralized basis" (Tsunoda, column 1, lines 66-67).

**45.**     Claims 8 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Banks, et al.

(US 6,674,449 B1) in view of Tsunoda (US 7,315,755 B2) and in further view of Babula, et al. (US

6,353,445 B1) and still in further view of Matsumoto, et al. (JP 2001-149354 A) and Official

Notice.


**46.     Claim 8:**

The combination of Banks/Tsunoda/Babula/Matsumoto discloses the limitations as shown in the

rejections above.  With regard to the limitations of *said server judges whether the examination*

*information includes private information at a time of registration, and upon judging presence of*

*the private information, registers the examination information by one of the following: by deleting*

*the private information partially; by deleting the private information entirely; and by replacing the*

*private information with another information*, Babula discloses that any specific patient

identification information is stripped from the data.  Babula does not specifically disclose that the

private information should be partially deleted or replaced with other information, but the

examiner takes **Official Notice** that it is old and well known to partially delete or replace private

patient information.  It would have been obvious to one of ordinary skill in the art at the time of the

invention to modify the multiple modality interface of Banks/Tsunoda/Babula/Matsumoto with the

ability to partially delete or replace patient information because this would the system to be in

compliance with federal HIPAA standards.


**47.     Claim 37:**

The combination of Banks/Tsunoda/Babula/Matsumoto discloses the limitations as shown in the

rejections above.  With regard to the limitations of *the information related to the time needed for*

*an examination distributed from said server is one of a maximum value, an average value, and a*

*minimum value* of times needed for an examination registered in said server, Tsunoda discloses

that scan time is a significant measurement for assessing protocols .   Tsunoda does not

specifically disclose that the scan time is measured in maximums, averages and minimums, but

the examiner takes **Official Notice** that it is old and well known to evaluate maximum, minimum, and average values for a measurement. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the multiple modality interface of Banks/Tsunoda/Babula/Matsumoto with maximum, minimum, and average values for scan time because this would allow technologists and radiologist to be more efficient processing patients through a radiology department.

*Conclusion*

Any inquiry of a general nature or relating to the status of this application or concerning this communication or earlier communications from the Examiner should be directed to **JOSEPH BURGESS** whose telephone number is **(571)270-5547.** The Examiner can normally be reached on Monday-Friday, 9:30am-5:00pm. If attempts to reach the examiner by telephone are unsuccessful, the Examiner's supervisor, **JAMES REAGAN** can be reached at **(571)272-6710.**

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://portal.uspto.gov/external/portal/pair . Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at **(866)217-9197** (toll-free).

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JOSEPH BURGESS

01/29/2009

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